

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition by )  
VASCO BRAZIL for Review of Orders )  
Nos. 82-17 and 82-18 of the )  
California Regional Water Quality )  
Control Board, San Francisco Bay )  
Region. Our File No. A-310. )

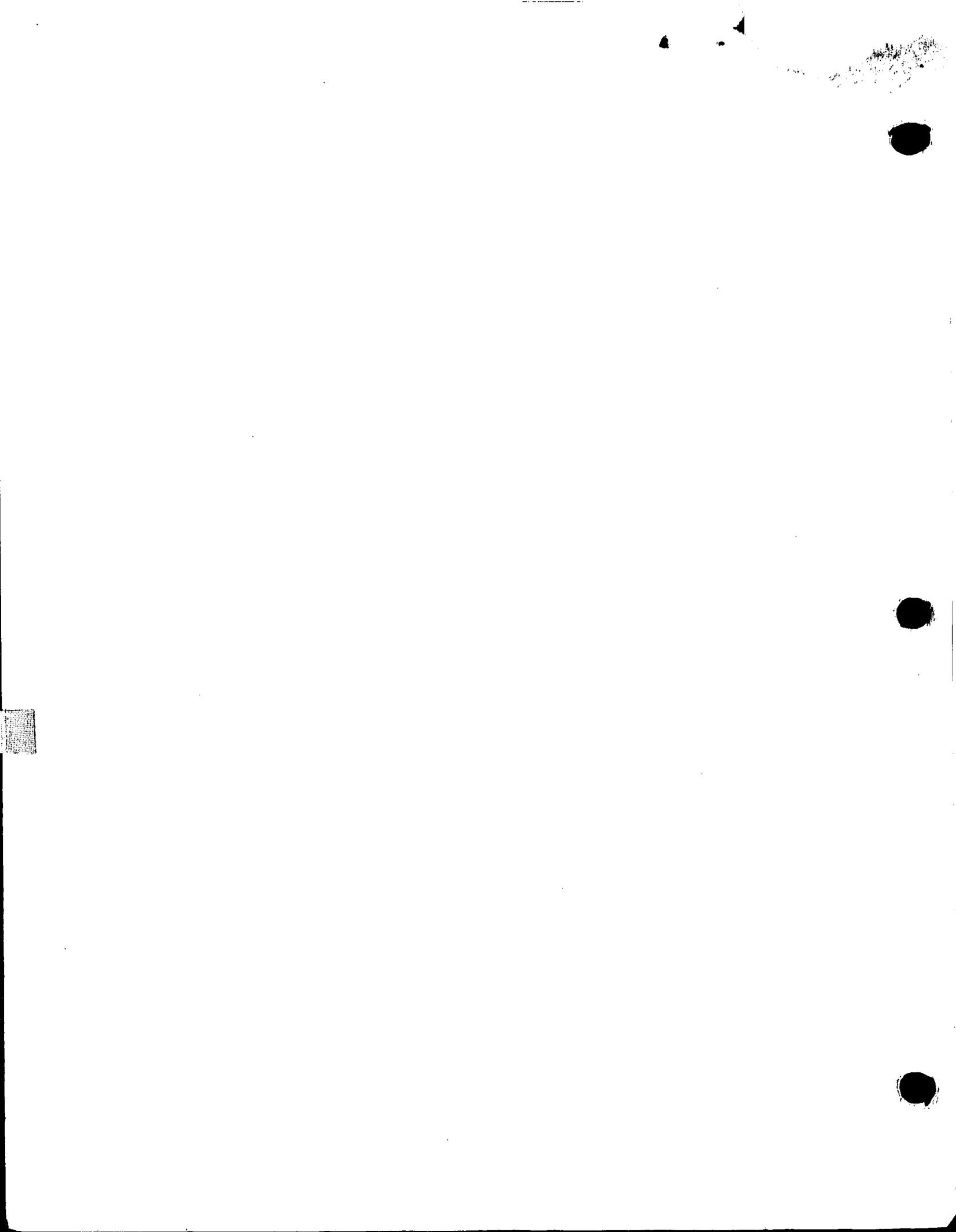
Order No. WQ 82-11

BY THE BOARD:

On March 17, 1982, the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Board), adopted Orders Nos. 82-17 and 82-18. Order No. 82-17 amended Order No. 79-169 which prescribed waste discharge requirements for the City of Petaluma's Water Pollution Control Plant. Order No. 82-18 established water reclamation requirements for the City of Petaluma (City) and six reclaimed wastewater users.<sup>1/</sup>

On April 15, 1982, the State Board received a petition for review of Orders Nos. 82-17 and 82-18 by Vasco Brazil. Pending completion of State Board review of the issues, petitioner requested a stay of the Regional Board orders. On June 17, 1982, the State Board, after a hearing, denied petitioner's stay request.<sup>2/</sup> On July 15 and September 14, the State Board conducted limited evidentiary hearings to receive evidence concerning the merits of several issues raised by petitioner regarding his appeal of Order No. 82-18.

1. The users are Dan Silacci, Charles Matteri, Henri Cardinaux, Joseph Mendoza, Ralph Bettinelli and Milton Tunzi.
2. See Order No. WQ 82-7.



## I. BACKGROUND

On December 18, 1979, the Regional Board adopted Order No. 79-169, prescribing requirements for the discharge of wastewater from the City's plant to the Petaluma River. Order No. 79-169 contained a prohibition against the discharge of wastewater to the Petaluma River from May 1 through November 30 of each year and included a time schedule to achieve compliance with the prohibition. The time schedule was consistent with a proposal by the City to construct, with the aid of Federal and State Clean Water Grant funds,<sup>3/</sup> a wastewater reclamation project utilizing agricultural irrigation as the means for complying with the discharge prohibition.

In Order No. 82-17, the Regional Board shortened the prohibition period to the interval from May 1 through October 20 of each year and revised the time schedule for compliance with the prohibition. The revised schedule calls for award of the construction contract for the City's treatment plant improvements and reclamation facilities by June 1, 1982, and completion of construction by December 1, 1983.

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3. See 33 USC §§1281-1297; Cal. Water Code §§13600 et seq., 13955 et seq. The City accepted Federal and State Clean Water Grants in January 1982, for the construction of the reclamation project.

The City's reclamation project will entail the irrigation of a minimum of 550 acres of land, used to grow fodder, fiber, or seed crops, with reclaimed wastewater. The effluent will receive secondary treatment and will be oxidized and disinfected. Requirements regulating the use of reclaimed wastewater for irrigation are contained in Regional Board Order No. 82-18.

## II. CONTENTIONS AND FINDINGS

### A. Order No. 82-17.

1. Contention: Petitioner contends that Paragraph B of Order No. 82-17, <sup>4/</sup> which revised the time schedule for

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4. Paragraph B provides as follows:

"B. Provision E.1, of this Board's Order No. 79-169 is amended to read as follows:

### 'E. Provisions

1. The discharger shall comply with the following time schedule to achieve compliance with Prohibition A.4, and Effluent Limitation B.1.b:

<u>Task</u>	<u>Completion Date</u>
a. Advertise for constructions bids	March 18, 1982
b. Open construction bids	April 1, 1982
c. Award construction contract	June 1, 1982
d. Complete construction	December 1, 1983
e. Full compliance	January 1, 1984'"

compliance with the prohibition against discharge to the Petaluma River, should be stricken and that further construction of the reclamation project should be delayed until a self-contained wetlands study can be completed. Petitioner requests that the City be given an additional two years to study and evaluate a small self-contained wetlands project.

Finding: We conclude that the Regional Board acted properly in refusing to delay the time schedule contained in Paragraph B of Order No. 82-17 for the following reasons. First, the significant delay proposed by petitioner in implementation of the dry weather discharge prohibition to the Petaluma River would not be justified from a water quality standpoint. The Petaluma River is a dead-end tidal slough during the dry weather months. As a consequence, during the dry season the river has essentially no assimilative capacity. In late summer the river suffers from algal blooms, low dissolved oxygen concentrations, concentrations of toxic unionized ammonia in excess of Basin Plan standards, and fish kills. The City discharges effluent during the critical dry weather months which contributes to the water quality problems in the river by the addition of oxygen-demanding substances, algae nutrients, and ammonia toxicity. The City is currently engaged in construction of a project, after many years of planning,<sup>5/</sup> which will eliminate the dry weather discharge of effluent to the Petaluma River. Given these circumstances, we cannot sanction

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5. The City received its first federal grant for wastewater treatment plant improvements on October 24, 1972.

a delay of a minimum of two years in implementation of a project to comply with the dry weather discharge. As this Board noted in Order No. WQ 80-20, however, neither the petitioner nor the City is in any way precluded from undertaking a study of a wetlands alternative, concurrently with implementation of the present reclamation project, and presenting the findings of the study to the Regional Board.

Secondly, under Water Code Section 13360 the State and Regional Boards are prohibited from specifying the method or manner of compliance with waste discharge requirements, and the discharger must be permitted to comply in any lawful manner. Even assuming that a self-contained wetlands project is a better project than that selected by the City of Petaluma, therefore, the Regional Board would be powerless to compel the City to study that specific project, much less to implement it. Further, because the Boards cannot mandate that the City study or implement a particular project, a delay in the time schedule for construction of the reclamation project would not give the petitioner the relief he seeks. That is, it would not necessarily result in the study by the City of a self-contained wetlands project.

Thirdly, as we noted previously, the City has received State and Federal Clean Water Grants funds to construct an appropriate project to comply with the dry weather discharge prohibition. The current federal administration has made significant cutbacks in grant funding and more cutbacks are proposed in the future. If the City were to delay implementation of a

project, their existing grant could be jeopardized,<sup>6/</sup> and there would be no assurance that grant funds would be available in the future for an alternative project. We therefore conclude that a delay at this time, without a compelling justification, would be irresponsible .

B. Order No. 82-18.

1. Contention: Petitioner contends that the notice given by the Regional Board of the public hearing held on March 17, 1982, to consider adoption of wastewater reclamation requirements<sup>7/</sup> was inadequate. Specifically, he contends that the notice was defective because it failed to specify that the proposed reclamation requirements would revise or amend existing reclamation requirements relating to public health.

Finding: We find that the notice given by the Regional Board of the March 17 meeting to consider adoption of reclamation requirements was adequate. Water Code Section 13523 states, in this regard, that "[e]ach regional board, after consulting with and receiving the recommendations of the State Department of Health Services and after any necessary hearing, shall, if it determines such action to be necessary to protect the

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6. See 40 C.F.R. §35.935-9(a), which states in part that "[f]ailure of the grantee to promptly initiate and complete Steps 1, 2 or 3 project construction may result in annulment or termination of the grant."

7. See Attachment A to this Order.

public health, safety, or welfare, prescribe water reclamation requirements for water which is used or proposed to be used as reclaimed water." (Emphasis added.) State Board procedural regulations provide guidance on the type of notice which is required for hearings to consider the adoption of reclamation requirements. The regulations specify that notice of adjudicatory actions must indicate the date, time, and location of the meeting at which the item will be considered, a description of the item, and the proposed action to be taken. See 23 C.A.C. Sections 648.1 and 647.2. The notice given by the Regional Board of its March 17 hearing on Order No. 82-18 fully complied with these notice requirements. Further, we note that petitioner participated in the Regional Board hearing on March 17, 1982, and made extensive comments on the proposed reclamation requirements.

While we conclude that the notice was adequate, we are able to understand the source of petitioner's confusion. When the Regional Board adopted Order No. 82-18, Order No. 77-31 was rescinded. Order No. 77-31 established reclamation requirements for the City of Petaluma and five reclaimed water users, which allowed the use of primary, undisinfected effluent for the irrigation of fodder crops for dairy cattle. One of petitioner's neighbors, Mr. Dan Silacci, has been using reclaimed wastewater pursuant to the provisions of Order No. 77-31 for several years.

Subsequent to adoption of Order No. 82-18, the Regional Board staff informed Mr. Silacci that the wastewater reclamation requirements contained in Order No. 82-18 govern the City's

proposed effluent disposal project, which will not be completed until the 1984 dry weather irrigation season. Further, staff indicated to Mr. Silacci that, pursuant to the waiver provisions of the Porter-Cologne Act, he is authorized to continue the use of reclaimed water as long as the use complies with the provisions of the rescinded Order No. 77-31.<sup>8/</sup>

If the Regional Board intended to allow the continued use of reclaimed wastewater by Mr. Silacci, as long as the use complied with the provisions of Order No. 77-31, the Regional Board acted inappropriately in rescinding Order No. 77-31. We conclude that the reclamation requirements contained in Order No. 77-31 should be reinstated to regulate the use of reclaimed wastewater by Mr. Silacci in the interim prior to completion of the City's agricultural reclamation project. Pursuant to our authority under Water Code Section 13320, this Board will reissue the reclamation requirements contained in Regional Board Order No. 77-31.

At the hearing held by this Board on July 15, a representative of the State Department of Health Services recommended that the 50-foot buffer zone contained in Order No. 77-31 be revised to 100 feet. Based upon this recommendation, the reclamation requirements contained in Attachment C of this Order which we adopt today contain a 100-foot buffer zone. In addition, the requirements include an expiration date of

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8. Letter dated May 14, 1982, to Mr. Dan Silacci, from Fred H. Dierker, Regional Board Executive Officer.

January 1, 1984, the date on which the City's reclamation project is scheduled for completion. We will also revise Provision C.9 of Order No. 82-18, which rescinded Order No. 77-31, to read as follows:

"The reclaimed water quality specifications and use restrictions contained in this Order will become effective upon the completion by the City of the reclamation facilities referenced in Findings 1, 8, 9, and 10. These facilities are scheduled to become operational on January 1, 1984. The reclamation requirements contained in Attachment C of State Board Order No. WQ 82-11 shall remain in effect until January 1, 1984, and shall be superseded by this Order thereafter."

Finally, at the September 14 hearing on this matter petitioner introduced testimony regarding alleged violations of Order No. 77-31. He asserted that the self-monitoring program for Order No. 77-31 has been ineffective in detecting violations of the order.

Petitioner's concerns appear to address the adequacy of both the provisions of the self-monitoring program for Order No. 77-31 and the enforcement of Order No. 77-31 by the Regional Board. We have concluded that his concerns should be addressed, in the first instance, by the Regional Board. We will, therefore, reissue the reclamation requirements contained in Order No. 77-31, including the present self-monitoring program for Order No. 77-31, but direct the Regional Board to take a detailed look within three months of the date of this order at the self-monitoring program and the adequacy of the Regional Board's enforcement of the reclamation requirements contained in Order No. 77-31.

2. Contention: Petitioner contends that further investigation is necessary in order for the Regional Board to formulate proper monitoring requirements, and that the Regional Board must designate an impartial person or entity to conduct the monitoring. Petitioner further alleges that numerous violations of Order No. 77-31 have occurred in the past, that the monitoring program under Order No. 77-31 has been ineffective, and that the monitoring requirements for Order No. 82-18 must, therefore, be strict. In addition, petitioner contends that the wells, springs, and reservoirs of the petitioner and reclaimed water users should be investigated and tested so that proper monitoring can be established.

Finding: Currently, no reclamation activities are taking place, pursuant to Order No. 82-18, and none are contemplated until 1984, when the City's project is completed. The Regional Board has, consequently, not yet formulated a monitoring program for Order No. 82-18. The Regional Board has indicated that it will develop a tentative program, in coordination with the City, the users, and State and County Health Departments well before the discharge from the City's proposed reclamation facilities begins. The tentative program will be sent to petitioner and other interested persons prior to being adopted in final form. If petitioner is not satisfied at that time with the provisions of the monitoring program, he is free to appeal to the State Board. See Water Code Section 13320. Petitioner's allegations regarding the proposed monitoring program are, therefore, premature.

With regard to the contamination of wells and springs, the Subsequent Environmental Impact Report for the City's proposed project states that the City is undertaking a special study, as a mitigation measure, "to identify specific measures that would be necessary for the protection of wells and springs on all of the ranches".<sup>9/</sup> Order No. 82-18 also requires that, 90 days prior to initial commencement of wastewater reclamation on any use areas, the City and the users must submit to the Regional Board a report, satisfactory to the Executive Officer, showing how each domestic and irrigation well in, or adjacent to, the irrigation areas will be adequately protected.

3. Contention: Petitioner contends that Order No. 82-18 violates the California Environmental Quality Act, Public Resources Code Sections 21000 et seq. (CEQA), by improperly delegating the mitigation of potential significant impacts on water quality associated with the City's project to the City and the reclaimed wastewater users.

Finding: The Subsequent Environmental Impact Report for the City's reclamation project identifies a number of potential adverse impacts relative to water quality and public health stemming from the project, including:

1. contamination of water supply wells and springs;

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9. "Subsequent Environmental Impact Report for the City of Petaluma Wastewater Irrigation Project", Brown & Caldwell May 11, 1981, at p. 4-4.

2. ponding of effluent used for spray irrigation, which could promote mosquito propagation;

3. pollution of surface waters caused by runoff of effluent used for spray irrigation;

4. impacts on public health due to aerosol drift, mosquito propagation, and effects on workers.<sup>10/</sup>

The report recommends mitigation measures to control the identified potential adverse impacts, including both design measures and management practices.<sup>11/</sup> On August 14, 1981, the City adopted Resolution No. 9257 expressing the City's intention to undertake the mitigation measures identified in the Subsequent Environmental Impact Report.

The Regional Board, as a responsible agency, in this instance, must mitigate or avoid those potential significant adverse impacts which are within the scope of its statutory powers.<sup>12/</sup> With respect to each potential significant adverse impact, the Regional Board must make one or more of the following findings:

"(a) Changes or alterations have been required in, or incorporated into, such project which mitigate or avoid the significant environmental effects thereof as identified in the completed environmental impact report.

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10. Pages 4-1 through 4-3.

11. See Attachment B, consisting of pertinent portions of pages 4-3 through 4-5 of the Subsequent Environmental Impact Report.

12. 14 C.A.C. §15085.5.

"(b) Such changes or alterations are within the responsibility and jurisdiction of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.

"(c) Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the environmental impact report." 13/

Finding No. 10 of Order No. 82-18 states that "[t]he Producer and Users will design, construct and manage the treatment and irrigation facilities to mitigate" the potential adverse water quality impacts. The Executive Officer Summary Report which accompanied Order No. 82-18 states that the Subsequent Environmental Impact Report "proposed measures which were either included in the final design approved by the State Water Resources Control Board or will be implemented by the City during operation of the project (i.e., ground water monitoring)."

While we do not believe that Order No. 82-18 improperly delegates to the City and the users the mitigation of potential adverse impacts, we have concluded that Finding No. 10 does not adequately ensure that all measures, including operational measures proposed by the City to mitigate potential adverse impacts will be implemented. The Finding should state that changes or alterations have been required in, or incorporated into the project which will mitigate the identified potential adverse water quality-related impacts. This Board notes that the City has made a commitment to implement the mitigation measures identified in the Subsequent Environmental Impact Report. The

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13. Cal. Pub. Res. Code §21081; 14 C.A.C. §15088.

Board has, therefore, determined that Order No. 82-18 should be amended to require that those mitigation measures, e.g., operational measures, which are recommended in the Subsequent Environmental Impact Report, but which are not incorporated into the project design, are, in fact, implemented by the City.

The Board, therefore, revises Order No. 82-18 to include a Provision C.11, stating:

"Ninety (90) days prior to initial commencement of wastewater reclamation on any use area, the Producer will submit a report, which is satisfactory to the Executive Officer, demonstrating how the mitigation measures outlined on Pages 4-4 and 4-5 of the Subsequent Environmental Impact Report regarding contamination of wells and springs, surface runoff control and water quality effects, and public health will be implemented."

Finding No. 10 is also hereby revised to state that:

"The Regional Board finds that the potential adverse water quality and public health related impacts stemming from the City's project, which are identified on Pages 4-4 and 4-5 of the Subsequent Environmental Impact Report, have been mitigated by measures incorporated into the project design or required by this Order."

4. Contention: Petitioner contends that Use Restriction B.5 of Order No. 82-18 does not adequately protect his family and property. Petitioner alleges that Use Restriction B.5 will allow the escape of reclaimed water from the irrigated areas, through airborne spray or other means, which may not cause saturated conditions, but which may damage petitioner. He contends that the wording of Prohibition B.4 of Order No. 77-31, should be substituted for that of Restriction B.5 of Order No. 82-18.

Finding: Prohibition B.4 of Order No. 77-31 provides, in part:

"No reclaimed water used for irrigation shall be allowed to escape from the property of user via surface flow, surfacing after percolation, or airborne spray."

The wording of Use Restriction B.5 of Order No. 82-18, in contrast, is as follows:

"No reclaimed wastewater used for irrigation shall be allowed to cause saturated conditions to any area outside the disposal areas, either by surface flow or airborne spray. The disposal area shall be defined to mean the spray irrigation areas plus the ditch system draining the area."

As indicated previously, Order No. 77-31 established reclamation requirements for the use of primary, undisinfected effluent. Order No. 82-18, on the other hand, contains requirements for secondary, oxidized, and disinfected effluent.

The Regional Boards regulate wastewater reclamation activities under Chapter 7, Division 7 of the Water Code. The State Department of Health Services is required under Chapter 7 to establish statewide reclamation criteria for each varying type of reclaimed water use. <sup>14/</sup> "Reclamation criteria are the levels of constituents of reclaimed water, and means for assurance of reliability under the design concept which will result in reclaimed water safe from the standpoint of public health, for the users to be made." <sup>15/</sup> Criteria adopted by the Department of Health Services are contained in Title 22 of the California Administrative Code.

The only reclamation criteria contained in Title 22 which are applicable to the City's agricultural reclamation project are as follows:

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14. Water Code §13521.

15. Id. §13520.

"60309. Fodder, Fiber, and Seed Crops. Reclaimed water used for the surface or spray irrigation of fodder, fiber, and seed crops shall have a level of quality no less than that of primary effluent."

"60311. Pasture for Milking Animals. Reclaimed water used for the irrigation of pasture to which milking cows or goats have access shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed."

Order No. 82-18 is consistent with these criteria.

The Regional Board record reflects that no representatives of either state or county health agencies testified at the Regional Board's hearing on March 17 to consider adoption of the Petaluma reclamation requirements. The Regional Board did, however, receive written comments from B. David Clark, District Engineer for the Santa Rosa District of the State Department of Health Services, dated March 11, 1982, concurring in the proposed reclamation requirements. Specifically, the memo stated, in pertinent part:

"We concur with the proposed requirements but request the opportunity to review the design of measures to mitigate the adverse impacts identified in the EIR - groundwater degradation, public contact with wastewater at storage or application sites, or public exposure through airborne sprays.

"We would also advise that there should be no exposure of milking animals to the reclaimed wastewater."

The Regional Board received written comments from the Sonoma County Public Health Services regarding proposed Order No. 82-17, but no comments on the proposed reclamation requirements.

At the evidentiary hearing conducted by this Board on July 15 a representative of the State Department of Health Services recommended that Use Restriction B.5 be revised to delete the reference to "saturated conditions". Under his recommendation, Use Restriction B.5 would read:

"No reclaimed wastewater used for irrigation shall be allowed to escape from the property of the user via surface flow, surfacing after percolation, or airborne spray."

We presume that the concern of the State Department of Health Services is that even if the reclaimed water users maintain an appropriate buffer zone around sensitive areas, as required in Use Restriction B.6, airborne spray could nevertheless escape the users' property during windy periods and come in contact with homes and other areas. The recommended wording for B.5, by prohibiting the escape of reclaimed water from the users' property, provides better protection, from a public health standpoint, for neighboring landowners and others who might come in contact with the effluent. The proposed language for B.5 would, for example, require that the users modify their operations on windy days so as to prevent escape of reclaimed wastewater from the users' property.

We concur in the recommendations of the Department of Health Services and, therefore, hereby revise B.5 in accordance with the Department's recommendations.

5. Contention: Petitioner alleges that the Regional Board erred in establishing a 50-foot, rather than a 100-foot buffer zone, for the spray irrigation project.

Finding: Prohibition B.4 of Order No. 77-31 prohibited the application of reclaimed wastewater "within 50 feet of any flowing stream, public highway, house, barn, or pond." By contrast, Use Restriction B.6 of Order No. 82-18 provides:

"Reclaimed water shall not be applied so as to cause saturated conditions within 100 feet of any flowing stream channels containing surface water, house, milking barn, or pond."

A comparison of Order No. 77-31 with Order No. 82-18 indicates that the buffer zone has increased from 50 feet to 100 feet, and not the reverse as alleged by petitioner. It should be noted that the buffer area has increased even though Order No. 82-18 regulates the use of a higher quality of effluent than Order No. 77-31.

A review of the Regional Board record indicates that a 100-foot buffer zone was proposed by both state and county health agencies for the Petaluma project, and that the City agreed to abide by this restriction. We, therefore, find that a 100-foot setback is appropriate. It is not clear, however, that the present wording of Use Restriction B.6 of Order No. 82-18, in fact, establishes a 100-foot setback because of the addition of the phrase "so as to cause saturated conditions". As presently worded, it appears that Restriction B.6 would allow the application of reclaimed water within 100 feet of a house, for example, as long as it did not cause saturated conditions. This is probably not the result intended by the Regional Board or the health agencies. We, consequently, conclude that Restriction B.6 should be amended to delete the phrase "so as to cause saturated conditions".

A representative of the Sonoma County Public Health Services at the evidentiary hearing on July 15 also recommended that Restriction B.6 be broadened to prohibit the application of reclaimed wastewater within 100 feet of any public highway or well. We concur in the recommendation to include wells in Restriction B.6, but do not agree that public highways should also be included.

We note, initially, that Use Restriction B.5, as revised by this Order, prohibits the escape of reclaimed wastewater from the users' property. As a consequence, B.5 prohibits the escape of wastewater, through airborne spray, from the users' property to public highways.

Secondly, Reclaimed Water Quality Specification A.1 of Order No. 82-18 requires that the reclaimed water used for irrigation be adequately disinfected, oxidized, and meet a median coliform limit of 23 MPN per 100 millimeters. This level of treatment meets the requirements of Section 60313 of Title 22 of the California Administrative Code governing landscape irrigation. Specifically, subsection (a) of Section 60313 provides:

"(a) Reclaimed water used for the irrigation of golf courses, cemeteries, freeway landscapes, and landscapes in other areas where the public has similar access or exposure shall be at all times an adequately disinfected, oxidized wastewater. The wastewater shall be considered adequately disinfected if the median number of coliform organisms in the effluent does not exceed 23 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed, and the number of coliform organisms does not exceed 240 per 100 milliliters in any two consecutive samples." (Emphasis added.)

Presumably, the Sonoma County Public Health Services representative recommended the inclusion of public highways in Restriction B.6 because of possible public contact with the reclaimed wastewater. As staff explained at the July 15 hearing, however, the Department of Health Services' regulations governing landscape irrigation allow the use of reclaimed water meeting the level of treatment prescribed by Order No. 82-18 for "freeway landscapes and landscapes in other areas where the public has similar access or exposure"; and, the use of reclaimed water for freeway landscapes and its use for agricultural irrigation on parcels bordering public highways involve a similar degree of public access. For this reason, we believe that the level of treatment prescribed in Order No. 82-18 and other use restrictions contained in the order will adequately protect the public health of individuals traveling along the highway, and that inclusion of public highways in Restriction B.6 is therefore unnecessary.

6. Contention: Petitioner contends that Use Restriction B.1 of Order No. 82-18 allows milking cows to graze on grass while it is wet in violation of health regulations and policy.

Finding: Use Restriction B.1 of Order No. 82-18 provides as follows:

"Use of reclaimed wastewater under provisions of this Order shall be limited to irrigation of fodder, fiber and seed crops, and pasturing of non-milking and milking animals."

The reclamation criteria adopted by the Department of Health Services do not prohibit reclaimed wastewater users from allowing milking cows to graze on grass while it is wet. However, the Department has issued "Guidelines for Use of Reclaimed Water for Irrigation and Impoundments", which have not been adopted as regulations, recommending that "[a]nimals, especially milking animals...not be allowed to graze on land irrigated with reclaimed water until it is thoroughly dry." In addition, as indicated previously, the Department advised the Regional Board in written comments that "there should be no exposure of milking animals to the reclaimed wastewater." We also note that the Subsequent Environmental Impact Report for the Petaluma project recommended as a mitigation measure that "[c]attle and heavy machinery...not be allowed access to the irrigated parcel until adequately dried to minimize soil compaction", 16/ and, hence, ponding of effluent.

This Board has previously concluded, in part II.B.3. of this Order, that a provision should be added to Order No. 82-18 ensuring that the City implements the mitigation measures, including operational measures, identified in the Subsequent Environmental Impact Report relating to water quality and public health. Because the Subsequent Environmental Impact Report recommends as a mitigation measure that cattle not be allowed to graze on irrigated parcels until they are adequately dried, we conclude that Use Restriction B.1 of Order No. 82-18 cannot be interpreted in the manner suggested by petitioner. Petitioner's contention that B.1 is improper must, therefore, be rejected.

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16. Page 4-4.

7. Contention: Petitioner contends that he was denied a full and fair hearing before the Regional Board on March 17, 1982, because he was denied the opportunity to rebut statements made by Regional Board staff, and the opportunity to present additional evidence. Petitioner requests a hearing before this Board in order to introduce evidence that there have been numerous violations of Order No. 77-31, that the self-monitoring program established under Order No. 77-31 has been ineffective, and that monitoring requirements for Order No. 82-18 should, therefore, be strict. Petitioner also seeks to introduce evidence that the requirements in Order No. 82-18 are not adequate to protect public health. In addition, he wishes to introduce evidence regarding a self-contained wetlands project.

After reviewing the Regional Board record of the hearing held on March 17, 1982, we are unable to determine whether petitioner's contentions that he was denied the opportunity to rebut statements made by staff and to present additional evidence is meritorious. The record indicates that petitioner was given the opportunity to make a statement before the Regional Board regarding the proposed NPDES permit modifications and reclamation requirements. At the conclusion of petitioner's statement, the Regional Board Chairman requested a response by staff to petitioner's allegations. The staff response was given by Dr. Larry Kolb. Petitioner, at one point, interrupted Dr. Kolb to ask if he could respond to a statement made by Dr. Kolb. The Regional Board's response is inaudible; however, the request was apparently denied. Dr. Kolb concluded his statement, and petitioner made no further attempt to respond or to introduce additional evidence.

We have concluded that any error that may have occurred on March 17 as a result of this event has been cured by the limited evidentiary hearings held by this Board on July 15 and September 14 regarding Use Restrictions B.1, 5, 6, and 9 of Order No. 82-18.<sup>17/</sup> We have also considered oral argument regarding the remaining issues raised by petitioner. This Board did not receive evidence regarding the monitoring issues raised by petitioner because, for the reasons explained previously, the monitoring program for Order No. 82-18 has not as yet been adopted by the Regional Board, and the issues are, therefore, premature. Evidence regarding the effectiveness of the self-monitoring program under Order No. 77-31 may have some bearing on the monitoring program for Order No. 82-18, but it is not germane to the issues raised here. The Board also did not hear evidence regarding the self-contained wetlands project advocated by petitioner because neither the Regional Board nor this Board can, under Water Code Section 13360, grant petitioner the relief he is seeking. As we stated before, however, the petitioner and the City are free to study such a wetlands project.

8. Contention: At this Board's hearing on July 15, 1982, petitioner raised an additional concern regarding the lack of a specific provision in Order No. 82-18 covering irrigation during windy conditions. We have previously, in Contention B.2 of

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17. Although the State Board hearings on July 15 and September 14 were noticed as limited evidentiary hearings to receive testimony on B.1, 5 and 6, only, of Order No. 82-18, the Board also heard testimony from petitioner and others regarding B.9. Additionally, the Board heard oral argument regarding Restriction B.10.

this Order, concluded that Order No. 82-18 should be revised to include a Provision C.11 requiring the City to submit a report demonstrating how the mitigation measures identified in the Subsequent Environmental Impact Report will be implemented. One of these measures is that the users avoid irrigation during very windy conditions. In addition, Use Restriction B.5 of Order No. 82-18, as amended by this Order, prohibits the escape of reclaimed water from the users' property through airborne spray. Nevertheless, to alleviate petitioner's concern, we wish to make clear that the report required in Provision C.11 must address specific operational measures which the City and the users will employ to avoid irrigating during very windy conditions.

9. Contention: At the July 15 State Board hearing, petitioner also challenged the propriety of Reclaimed Water Use Restriction B.9 of Regional Board Order No. 82-18. This restriction provides, in part, that "[s]urface drainage channels for the hillside areas irrigated with reclaimed water shall be dammed to prevent any runoff of reclaimed water from entering flowing stream channels containing surface water." Petitioner contends that the placement of dams in natural drainage channels will affect the flow of water into Wheat Creek, which runs through his property, and hence will affect the flow into his farm ponds. In addition, he contends that if careful management were practiced, there would be no need for the dams, and that the very existence of the dams will tend to encourage over-irrigation. Finally, petitioner contends that if the dams, which will remain open during the winter season, become clogged during the winter, that erosion or over-topping of the dams will occur.

Finding: Petitioner concedes that the issue of the propriety of Use Restriction B.9 of Order No. 82-18 was never presented to the Regional Board. Nor was the issue raised in his petition. Nevertheless, we will attempt to address his concerns.

The City of Petaluma's "Effluent Irrigation System - Ten Percent Design Report" (hereinafter Ten Percent Design Report) contains the following brief description of the check dams, which are a feature of the City's reclamation project:

"The irrigation systems will be designed to match the application rate with the water intake rate of the irrigated soils, thereby minimizing runoff. However, any runoff of applied wastewater will be collected and contained within the boundaries of the ranches receiving wastewater. Containment will be accomplished by means of diversion ditches or levees and small check dams located in natural drainage courses or existing reservoirs. Dams will be removed or allowed to overflow during the winter season. Proposed locations of check dams are indicated in Figure 6. Contained runoff will be reapplied by means of a portable pump and surface aluminum sprinkler line." <sup>18/</sup>

Petitioner's first allegation regarding the check dams -- that the placement of the dams in drainage channels in the Wheat Creek watershed will affect the flow of water into his farm ponds -- appears to raise a water rights issue. We are unable to resolve this issue on the basis of the record before us. Petitioner has not indicated the basis for his claim of water right, if any, to the flows in Wheat Creek, nor the extent of such rights, if any. Petitioner has also failed to allege what effect, if any, the closing of dams in drainage courses above Wheat Creek in the dry weather months will have upon his unspecified water rights.

Assuming, without deciding, that petitioner does have a claim of right to the flows in Wheat Creek, we conclude that Restriction B.9 should be revised to ensure that the closing of the check dams does not interfere with any vested water rights. We will, therefore, amend the restriction to read as follows:

"Surface drainage channels for the hillside areas irrigated with reclaimed water shall be dammed to prevent any runoff of reclaimed water from entering flowing stream channels containing surface water, provided however that the damming of surface drainage channels shall not interfere with any vested water rights. All ponded (dammed) reclaimed water shall be disposed of properly, in accord with the restrictions, specifications and provisions of this order."

Because of the untimeliness of petitioner's water rights claim, however, and the lack of facts to support such a claim, we are unwilling to take further action at this time on the matter.

Secondly, petitioner essentially contends that the existence of the check dams will encourage poor management of the City's reclamation project. We cannot agree with this position. The Subsequent Environmental Impact Report for the City's project specifies a number of mechanisms which will be used by the City to control surface water runoff.<sup>19/</sup> Primary among these is matching the wastewater application rate with the water intake rate of the irrigated soils. This will be accomplished through the use of hydrants with flow meters, traveling gun type sprinklers with automatic timers, and tensiometers. As a safety precaution to assure that the public health is protected, the report also identified additional measures to control surface runoff. These

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19. Pages 3-25 through 3-32

include check dams and berms to collect and contain treated wastewater within the boundaries of the users' property. We believe that this type of runoff containment measure is appropriate as an additional safety precaution, and that it is not simply a ruse to encourage poor management of the project.

Finally, petitioner alleges that if the dams become clogged in the winter season, they will erode or overtop. If the dams were eroded, their usefulness in retaining wastewater within the boundaries of the users' property during the dry weather months would obviously be impaired. To ensure the integrity of the dams, the City or the users should inspect the dams prior to the start of the irrigation season and make any necessary repairs. Periodic inspections during the winter months should also alleviate petitioner's concern regarding clogging and overtopping of the dams. Inspection and maintenance of the check dams should specifically be addressed by the City in the report which they will submit to the Regional Board pursuant to Provision C.11 of Order No. 82-18.

10. Contention: In addition, at the July 15 State Board hearing petitioner alleged, in essence, that the City's reclamation project will recharge the groundwater basin and will, consequently, increase the flows in Wheat Creek which are fed by springs. Petitioner further alleged that this will degrade the quality of the ground and surface waters, including the quality of his farm pond. Petitioner also expressed a concern regarding pollution of the groundwater with nitrates.

Finding: We conclude that ground water recharge should not occur for two reasons. Major groundwater basins in Sonoma County underlie the Santa Rosa Plain, Petaluma Valley, and the

Sonoma Valley. The locations of the major recharge zones for these groundwater bodies are all substantially removed from the project area. As stated in the Subsequent Environmental Impact Report "[b]ecause the irrigation project is not near the recharge zones, the threat to groundwater quality is very small."<sup>20/</sup>

The rate recommended for application of the reclaimed wastewater should also tend to preclude any ground water recharge. The Ten Percent Design Report<sup>21/</sup> and Subsequent Environmental Impact Report<sup>22/</sup> contain a recommended weighted average application rate for pasture and silage corn, based on average climatic conditions in the Petaluma area, of 2.56 acre-feet/acre during the growing season. The reports indicate that this rate will "essentially meet the water consumption needs of the crops and will not cause any appreciable percolation below the root zone." The Subsequent Environmental Impact Report further states that "[o]n the rolling terrain of the irrigated agricultural parcels, the treated wastewater application rate will be matched with the water intake rate of the irrigated soils...."<sup>23/</sup>

Adherence to the proposed wastewater application rate of 2.56 acre-feet/acre during the irrigation season and matching the application rate to the rate of water intake, as recommended in the Subsequent Environmental Impact Report, should preclude groundwater recharge and also minimize surface runoff.

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20. Page 3-20. See also Page IV-13 of the "June 1979 Final Environmental Impact Report and Environmental Impact Statement, Vol. 2, Petaluma, Eastern Marin-Southern Sonoma Wastewater Management Plan."

21. Page 3.

22. Page 2-8.

23. Page 2-9.

Regarding potential nitrate pollution, the Subsequent Environmental Impact Report contains the following pertinent information:

"Nutrient Application Versus Crop Demand. One of the principal concerns with treated wastewater application is that the nitrogen, in the nitrate form, will ultimately percolate to, and degrade the groundwater. Nitrate that is not immobilized by the soil microbial organisms is volatilized (biologically or chemically mediated), taken up by plants, or percolated with drainage water out of the rooting zone.

"To avoid any possibility of nitrate percolating out of the root zone, the applied nitrogen should match the crop nitrogen requirements. At both the Bakersfield and Lubbock, Texas, treated wastewater irrigation farms, it appears likely that the relatively high nitrate-nitrogen concentrations in the groundwater are due to applying too much effluent containing nitrogen on lands during periods when crops are either absent or making little growth.

"Such will not be the problem using Petaluma pond effluent. ...the pond effluent has a nitrogen content averaging 7.5 mg/1, considerably below most treatment plant effluents. This is due to the oxidation ponds where a considerable amount of nitrogen is lost to the atmosphere or assimilated by the algae. Table 3-8 [below] shows a nitrogen budget for pasture, corn silage, and turfgrass (golf course). With the irrigation requirements as shown, and 20.4 pounds of nitrogen contained in each acre-foot of pond effluent, supplemental nitrogen fertilizer would be required to attain maximum yields. With proper control over fertilizer application, nitrate-nitrogen percolating beyond the root zone should not be of concern. Soil sampling conducted in the spring for nutrients, as discussed earlier, will be used as a basis for determining supplemental fertilizer requirements." 24/

"Table 3-8. Crop Nitrogen Budget

Crop/vegetation	Nitrogen requirement, lb/acre	Water requirement, acre-ft/yr	Applied nitrogen, <sup>a</sup> lb/acre/yr	Supplemental nitrogen required, lb/acre/yr
Pasture	80 <sup>b</sup>	2.63	53	27
Corn silage	115 <sup>c</sup>	1.9	39	76
Turfgrass	150	3.4	69	81

<sup>a</sup>Each acre-ft of pond effluent containing 20.4 lb of nitrogen.

<sup>b</sup>Average value based on a range of 60 to 100 lb/acre.

<sup>c</sup>Average value based on a range of 100 to 125 lb/acre."

Based upon the above, the Board concludes that proper management of the City's project should preclude the percolation of nitrates below the root zone.

11. Contention: Finally, petitioner contends that Use Restriction B.10 of Order No. 82-18 is improper.

Finding: Restriction B.10 provides that if a use restriction of Order No. 82-18 is violated, "the irrigation with reclaimed wastewater shall be immediately terminated at the specific location and not resumed until all violations and conditions which would permit the violations to recur have been corrected." Petitioner maintains that Restriction B.10 does not contain a sufficient deterrent against violations, and that the provision should be broadened to require cessation of irrigation from a specified period of time on all of the user's property, if there are violations on any of the user's property.

We believe that petitioner's proposal would be unnecessarily punitive and would be improper. A requirement that a reclaimed wastewater user cease irrigating on all of the user's property would, in essence, be a cease and desist order. A cease and desist order can be issued under the Water Code only after notice and a hearing.<sup>25/</sup> Further, a cease and desist order can be issued only if a Regional Board finds that a discharge of waste is taking place or threatening to take place in violation of requirements.<sup>26/</sup> If a wastewater user is violating reclamation

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25. Water Code §13301.

26. Id.

requirements on one portion of the user's property, a cease and desist order covering all of the user's property would be proper only if the Regional Board had evidence to support a finding that the user was threatening to violate requirements on the remaining portion of the user's property.

### III. CONCLUSIONS

After review of the record and consideration of the contentions of petitioner, and for the reasons discussed, we conclude as follows:

1. The Regional Board acted properly in refusing to delay the time schedule contained in Paragraph B of Order No. 82-17.
2. The notice issued by the Regional Board regarding the proposed wastewater reclamation requirements for the City's proposed project was legally sufficient.
3. The reclamation requirements contained in Regional Board Order No. 77-31, which was rescinded by Order No. 82-18, should be reissued, with appropriate modifications, to govern the reclamation activities of the City and the user, Mr. Dan Silacci, in the interim prior to completion of the City's agricultural reclamation project.
4. Order No. 82-18 does not improperly delegate to the City and the reclaimed wastewater users the mitigation of potential adverse water quality related impacts stemming from the project. However, Order No. 82-18 should be amended to ensure that the City

implements all of the water quality and public health related mitigation measures identified in the Subsequent Environmental Impact Report.

5. Reclaimed Water Use Restriction B.5 should be amended in accordance with the findings of this Order.

6. Reclaimed Water Use Restriction B.6 should be amended in accordance with the findings of this Order.

7. Reclaimed Water Use Restriction B.1 is appropriate and proper.

8. Any error which may have occurred on March 17 regarding petitioner's allegation that he was denied the opportunity for a hearing has been cured by the hearings held by this Board on July 15, 1982, and September 14, 1982.

9. The City must specifically address measures to avoid irrigating during very windy conditions in the report required in Provision C.11 of Order No. 82-18.

10. Reclaimed Water Use Restriction B.9 should be amended in accordance with the findings of this Order.

11. The City must address, in the report required in Provision C.11 of Order No. 82-18, measures to ensure the integrity of the check dams, including inspection and maintenance of the dams.

12. If the City's agricultural reclamation project is properly managed, the quality of ground and surface waters in the project area should be adequately protected.

13. Reclaimed Water Use Restriction B.10 is appropriate and proper.

IV. ORDER

IT IS HEREBY ORDERED that Finding No. 10, Reclaimed Water Use Restriction B.5, B.6, and B.9 and Provision C.9 of Order No. 82-18 are amended and that a new Provision C.11 is added to Order No. 82-18.

IT IS FURTHER ORDERED that the reclamation requirements contained in Attachment C of this Order are hereby adopted.

IT IS FURTHER ORDERED that the Regional Board is hereby directed to reexamine, within three months of the date of this Order, the adequacy of the self-monitoring program included in Attachment C and the Regional Board's enforcement of Order No. 77-31.

IT IS FURTHER ORDERED that the petition of Vasco Brazil is otherwise denied.

DATED: September 14, 1982

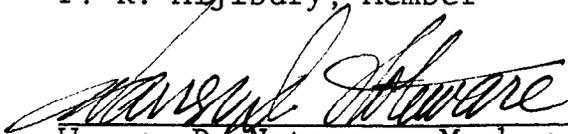
  
\_\_\_\_\_  
Carole A. Onorato, Chairwoman

  
\_\_\_\_\_  
L. L. Mitchell, Vice-Chairman

  
\_\_\_\_\_  
Jill D. Golis, Member

ABSENT

\_\_\_\_\_  
F. K. Aljibury, Member

  
\_\_\_\_\_  
Warren D. Noteware, Member

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

1111 JACKSON ST., OAKLAND, CA (415) 464-1255

NOTICE OF PUBLIC HEARING

FOR

WATER RECLAMATION REQUIREMENTS

The City of Petaluma, Dan Silacci, Charles Matteri, Henri Cardinaux, Joseph Mendoza, Ralph Pettinelli, and Milton Tunzi, Sonoma County, propose to irrigate a minimum of 550 acres of land with secondary treated wastewater from the City's wastewater treatment plant.

The Board's staff has prepared tentative water reclamation requirements for the above project, containing specifications and restrictions in accordance with the California Water Quality Control Act. The Regional Board intends to consider adopting the tentative requirements during a Public Hearing at the time and place indicated:

DATE: March 17, 1982

TIME: 9:30 a.m.

PLACE: Assembly Room, First Floor, State Office Building, 1111 Jackson Street, Oakland, California

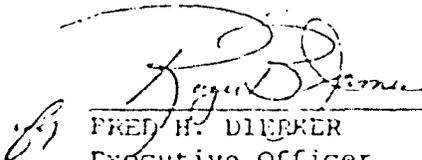
Persons wishing to file written comments on, or objections to, the specifications or restrictions of the tentative requirements or other aspects of this matter, are requested to do so within twenty days after the date of this Notice so that the comments may be considered in preparing this matter for presentation to the Regional Board.

Interested persons are invited to attend and express their views on this matter at the Public Hearing. The Board will hear oral comments, but request that written confirmation thereof be filed before or during the Hearing, to assure accuracy of the record.

The tentative requirements, comments received, and related documents may be inspected and copied at the Regional Board Office. Please bring the foregoing to the attention of any persons known to you who would be interested in this matter.

FEBRUARY 11, 1982

DATED

  
FRED H. DIEKER  
Executive Officer

ATTACHMENT A

RECOMMENDED MITIGATION MEASURES

Measures are identified below which will mitigate the potential adverse impacts described in this chapter. Most of the mitigation measures have project-wide applicability, but others are identified to a specific reuse area.

### Contamination of Wells and Springs

A special study is being conducted to identify specific measures that would be necessary for the protection of wells and springs on all the ranches. Water supply wells on Silacci's ranch will receive a detailed evaluation. The state DHS is being consulted during the study.

The City of Petaluma will be responsible for implementation of this mitigation measure.

### Surface Runoff Control and Water Quality Effects

Crop water demands should be met and not exceeded to avoid surface runoff. Hydrants with flowmeters, traveling guns with automatic timers, check dams, berms, and reapplication of collected runoff are all mitigation measures and already included in project design. Tensiometers should be used for guiding irrigation scheduling. Electric fencing should be used to define irrigated parcels. Cattle and heavy machinery should not be allowed access to the irrigated parcel until adequately dried to minimize soil compaction. Soil compaction will also be minimized by not allowing livestock grazing on irrigated parcels during the wintertime unless extended dry periods of time occur. Application rates on a small portion of a parcel owned by Silacci and next to Brazil's property should be reduced to assure no surface runoff.

If algae blooms do occur in the golf course ponds, pond levels should not be allowed to fluctuate widely to prevent shoreline decay of algae and odor. If necessary, ponds should be drained and cleaned during the winter when algal blooms are minimal. Microstrainers or other suitable devices, if necessary, should be used to reduce sprinkler clogging.

The City of Petaluma, landowners, and groundskeepers will be responsible for implementation.

Public Health

State DHS guidelines for the storage and use of reclaimed wastewater and for the protection of workers should be followed. Establish appropriate buffer distances, as already planned, between reuse areas and sensitive land uses. Increase the buffer distance around a rental house owned by Silacci on Browns Lane to at least 100 feet. Avoid irrigating during very windy conditions. Incorporate mosquito control measures as recommended in the final EIR/EIS to the reasonable satisfaction of the Marin-Sonoma Mosquito Abatement District. Control surface runoff and protect wells and springs as previously suggested.

The City of Petaluma, landowners, Frates Ranch landscape architects and groundskeepers will be responsible for implementation of these mitigation measures.

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STATE WATER RESOURCES CONTROL BOARD

TENTATIVE ORDER

WASTEWATER RECLAMATION REQUIREMENTS FOR:

CITY OF PETALUMA  
AND MR. DAN SILACCI  
SONOMA COUNTY

The State Water Resources Control Board finds that:

1. On February 23, 1977, the City of Petaluma (hereinafter the City) filed a Report of Waste Discharge on behalf of itself, as the producer, and Walter and Dan Silacci, Vasco B. Brazil, Leroy Roche, and Charles Matteri, for the use of reclaimed wastewater. The City proposed to increase the acreage and users allowed under Regional Board Order No. 76-56. Under the City's application, approximately one million gallons per day of reclaimed wastewater would be applied by spray irrigation to a maximum total of 1,540 acres of fodder crops for dairy cattle. No dairy cattle would be allowed to graze on the land sprayed with reclaimed wastewater. The area proposed for wastewater reclamation is shown as Attachment A, which is incorporated herein and made a part of this Order.
2. On April 19, 1977, the California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Regional Board) adopted Order No. 77-31, Wastewater Reclamation Requirements for the City and the reclaimed wastewater users identified in Finding 1.
3. Pursuant to Order No. 77-31, Mr. Dan Silacci has used 400 gallons per minute or approximately .5 million gallons per day of reclaimed wastewater on the parcels identified as S2 and S3 of Attachment A.
4. On March 17, 1982, the Regional Board adopted Order No. 82-18, Wastewater Reclamation Requirements for the City and six reclaimed wastewater users. The requirements regulate the use of secondary, oxidized and disinfected wastewater by the users for fodder, fiber and seed crops and the pasturing of milking and non-milking animals. The requirements will become effective upon the completion by the City of an agricultural reclamation project on January 1, 1984.
5. Order No. 82-18 rescinded Order No. 77-31. The Regional Board record, however, indicates that the Regional Board intended to allow the continued use of reclaimed wastewater by Mr. Dan Silacci, during the interim prior to completion of the City's reclamation project, provided that Mr. Silacci complied with the provisions of Order No. 77-31. The Regional Board's action in rescinding Order No. 77-31 was, therefore, improper.

6. Mr. Silacci will use the wastewater from the wastewater polishing ponds of the City of Petaluma treatment facilities which provide at least secondary treatment. Disinfection is not provided, and is not required for wastewater used for irrigation of fodder crops under the provisions of the Wastewater Reclamation Criteria, contained in Title 22 of the California Administrative Code.
7. The Regional Board adopted a Water Quality Control Plan for the San Francisco Bay Basin in April 1975.
8. The water quality goals to be used in regulating water quality factors as set forth in the Basin Plan include maximum feasible reclamation and reuse of municipal, industrial, and agricultural wastewaters.
9. This project meets the criteria for a Class 4 exemption from the provisions of the California Environmental Quality Act pursuant to Section 15104 of the California Administrative Code (State EIR Guidelines).
10. The wastewater reclamation requirements are in conformance with the "Policy and Action Plan for Water Reclamation in California" adopted by the State Water Resources Control Board January 6, 1977.
11. The State Board has notified the producer and Mr. Dan Silacci and interested agencies and persons of its intent to prescribe water reclamation requirements for the proposed uses.
12. The State Board at a public meeting heard and considered all comments pertaining to this reuse.

IT IS HEREBY ORDERED that the City and Mr. Dan Silacci, shall comply with the following:

A. Reclaimed Wastewater Use Specifications

1. The treatment distribution or reuse of reclaimed water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The reclaimed water shall be at all times an oxidized water and shall meet the following quality limits at all times:
 

Settleable Solids	0.5 ml/l-hr maximum
Dissolved Oxygen	1.0 mg/l, minimum
Dissolved Sulfide	0.1 mg/l, maximum
3. Users of reclaimed wastewater shall manage its application so as to minimize mosquito breeding. Users shall comply with requirements of the local Mosquito Abatement District.
4. The use of reclaimed water shall not cause degradation of groundwater suitable for domestic use or cause an increase in any quality parameter that would make groundwater unsuitable for irrigation use.

B. Prohibition

1. Wastewater use shall be confined to the parcels identified as S2 and S3 on Attachment A, unless written authorization has been obtained from the Executive Officer.
2. Reclaimed wastewater shall not be used for irrigation of crops for human consumption.
3. All necessary measures shall be taken to restrict public access to the wastewater reclamation area.
4. No reclaimed water used for irrigation shall be allowed to escape from the property of user via surface flow, surfacing after percolation, or airborne spray. Reclaimed wastewater shall not be applied within 100 feet of any flowing stream, public highway, house, barn, well or pond.
5. Dairy cattle are prohibited from grazing on the areas irrigated with reclaimed wastewater.
6. Fodder crops shall not be harvested when wet from spraying with reclaimed wastewater.
7. Surface drainage channels for the areas irrigated with reclaimed wastewater shall be dammed to prevent any runoff of reclaimed water from entering surface water.
8. Reclaimed wastewater shall not be applied if all sections of this Order are not complied with.

C. Provisions

1. Board Order No. 76-56, adopted May 18, 1976, is hereby rescinded.
2. All equipment, including pumps, piping and valves, storage pond, etc. which may at any time contain waste shall be adequately and clearly identified with warning signs and user shall make all necessary provisions, in addition, to inform the public that the liquid contained therein is sewage and is unfit for human consumption. All fields irrigated with wastewater shall be posted to inform the public that sewage is being used and is unfit for human consumption.
3. This Order includes items numbered 1 through 8 of the attached "Standard Provisions for the Use of Reclaimed Wastewater" dated March 15, 1973. The term "...user..." in the attached "Standard Provisions..." shall be replaced with "...producer and/or users..."
4. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the producer and/or user, the producer and/or user shall notify the succeeding owner or operator of the existence of this Order by a letter, a copy of which shall be forwarded to this Board.

5. This Order shall expire on January 1, 1984.

I, Clint Whitney, Executive Director, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board on

Clint Whitney  
Executive Director

Attachments:

A- Map

"Standard Provisions for the Use of  
Reclaimed Wastewater" dated 3/15/73  
Self-Monitoring Program

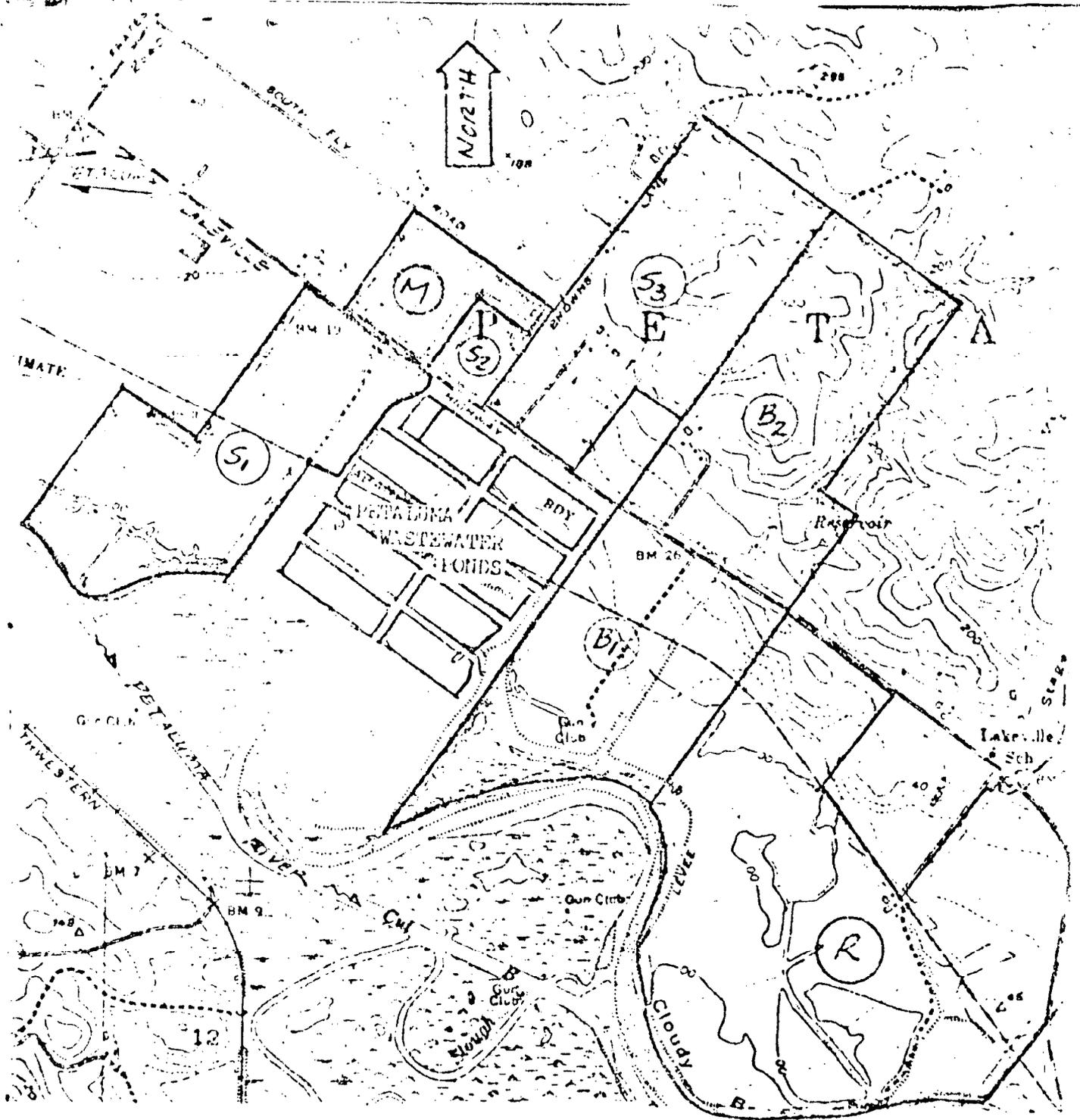
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

MARCH 15, 1973

STANDARD PROVISIONS  
FOR THE USE OF  
RECLAIMED WATER

1. This Board requests the user to take note of the comments and recommendations contained in all the correspondence the Board has received and considered concerning this matter, and the Executive Officer is directed to transmit copies of that correspondence to the user.
2. This Board considers "Waters of the State" as defined in Section 13050(e) of the California Water Code to include wastewaters over which the user has lost control.
3. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the user from his liabilities under Federal, State, or local laws, nor guarantee the user a capacity right in the receiving waters.
4. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
5. The user shall file with the regional board technical reports on self-monitoring work performed according to detailed specifications as directed by the Executive Officer.
6. The user shall permit the Regional Board or its authorized representatives:
  - a. Entry upon premises in which an effluent source is located or in which any required records are kept.
  - b. Access to copy any records required to be kept under terms and conditions of this order.
  - c. Inspection of any monitoring equipment or method required by this order.
  - d. Sampling of any discharge.
7. The user shall maintain in good working order and operate as efficiently as possible any facility or control system installed by the user to achieve compliance with the water reclamation requirements.
8. The user shall file with the regional board a report on waste discharge at least 180 days before making any material change or proposed change in the character, location or volume of reuse.





Location Map  
 UEGS Quadrangle  
 Petaluma River, Ca.  
 1954, rev. 1968  
 Scale 1"=2000'

**LEGEND**  
 WASTEWATER RECLAMATION AREAS

AREAS	OWNERS	ACREAGE (tot.)
B1, B2	VASCO B. BRANDELL	431+ Ac.
M	CHARLES HAPPERT	(2+)
P	LEROY ROCHE	991+
S1, S2, S3	BOB AND WALTER SHAW	496+ Ac.
		1540+ Ac.

STATE OF CALIFORNIA  
 REGIONAL WATER QUALITY CONTROL BOARD  
 SAN FRANCISCO BAY REGION

ATTACHMENT "A"  
 WASTEWATER RECLAMATION AREAS

ORDER 77-31

DRAWN BY: GIM DATE: 3/3/77 DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

City of Petaluma, Walter and Dan Silacci

Vasco B. Brazil, Leroy Roche and

Charles Matteri, Sonoma County

ORDER NO. 77-31

PART B, ordered 18 May 1976, effective  
18 May 1976 Revised effective  
19 April 1977

SELF-MONITORING PROGRAM FOR

THE CITY OF DETALENA, MR. WALTER SILACCI AND MR. DAN SILACCI, MR. VASCO B. BRAMIL, MR. LEROY ROCHE, AND MR. CHARLES MATTEI, SONOMA COUNTY

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13263, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing of the waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. MONITORING PROGRAM

1. Weekly during use the producer shall take samples of the pond wastewater to be sprayed and monitor the following:
  - a) Settleable Matter ml/l-hr
  - b) Dissolved Oxygen mg/l
  - c) Dissolved Sulfide mg/l (only if Dissolved Oxygen  $\leq$  1.0 mg/l)
2. Each day of spray application of reclaimed wastewater during the first 7 days of application and weekly thereafter the users shall inspect and report on the following:
  - a) Surface drainage canals for evidence of ponded wastewater and possible overflow of runoff from dams to surface waters.
  - b) Extent of spray transport outside the proposed areas for fodder production.
  - c) Presence of odors as a result of spray application of wastewater, noting the presence or absence, character source, and distance and direction of travel.

This shall be verified weekly by the producer.

3. The producer shall (a) identify, and (b) report the quantity of reclaimed wastewater delivered to each user.

4. The users shall report (a) the total quantity of reclaimed wastewater received, and (b) specific quantities for each type of use to which the reclaimed wastewater is applied.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

In the event the producer or user is unable to comply with the conditions of the wastewater reclamation requirements and prohibitions due to:

- a. Maintenance work, power failures, or breakdown of waste treatment equipment, or
- b. Accidents caused such as acts of nature,

The producer shall notify the Regional Board Office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to prevent the problem from recurring.

2. Regular Self-Monitoring Reports shall be sent to the Regional Board monthly. The Self-Monitoring Report will be a combined report of the producer and the users, the producer is responsible for submittal. The producer shall furnish an appropriate copy of the self-monitoring report submitted to the Regional Board to each user.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 77-31.
2. Was originally ordered by the Executive Officer 18 May 1976, became effective immediately, and is hereby ordered further revised April 19, 1977, effective immediately.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER  
Executive Officer

Date Ordered April 19, 1977